BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications	)	**CC Docket No. 98-146**
Capability to All Americans in a Reasonable	)	
and Timely Fashion, and Possible Steps	)	
to Accelerate Such Deployment	)	
Pursuant to Section 706 of the	)	
Telecommunications Act of 1996	)	
	)	

To: The Commission

COMMENTS OF THE NATIONAL RURAL TELECOMMUNICATIONS COOPERATIVE

The National Rural Telecommunications Cooperative ("NRTC") is pleased to submit these comments in response to the Notice of Inquiry ("NOI") issued by the Commission in the above-captioned proceeding.[1] NRTC believes that rural Americans eventually will accept Internet technologies that meet the FCC's "advanced telecommunications capability" definition ("infrastructure capable of delivering a speed in excess of 200 kbps in each direction"). However, that very definition is at present a barrier to the growth of rural high-speed services. NRTC believes that the FCC should revise its current definition to encourage the growth of faster-than-dial-up, packet-switched Internet technologies that do not fall under the current "advanced telecommunications capability" definition.

[1] Notice of Inquiry, *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, FCC 01-223 (August 10, 2001).

NRTC believes that Ka-band satellite Internet services require considerable development and deployment time before they will be ready to deliver services meeting the "advanced telecommunications capability" definition to rural Americans. Ku-band Internet services now available meet the definition for "advanced services" (defined as "those services capable of delivering transmission speeds in excess of 200 kbps in at least one direction"). However, many rural broadband bills pending before Congress and rural broadband support programs in place and under development by various federal agencies ignore the advanced services definition. Most require data rates matching the FCC's two-way definition or even higher speeds.

Today's Ku-band services are introducing always-on, packet-switched services to rural America. They are a necessary first step for rural telecommunications providers and subscribers before the Ka-band services arrive. The Commission would be advancing progress toward broadband services in rural areas by explaining why systems that meet the one-way, "advanced services" definition are important. The introduction of packet-based services to rural areas is the highest priority. Improved speeds will come as technologies improve, increased bandwidth becomes available, and demand for speedier services grows.

I. Background.

1. NRTC is a cooperative of 684 rural electric cooperatives, 124 rural telephone cooperatives, 184 independent rural telephone companies, and 13 affiliates located throughout 46 states. NRTC's mission is to assist its members in providing telecommunications technologies to rural America. NRTC has long been a provider of satellite-delivered multichannel video to remote regions, beginning with C-band programming services, and continuing today as a DIRECTV direct broadcast satellite ("DBS") distributor. Our members and affiliates currently provide service to more than 1.8 million DBS subscribers.

2. Bandwidth to support broadband communications has become the number-one telecommunications need for rural America. We recently entered into agreements with the two current Ku-band Internet carriers – Hughes Network Systems, Inc. and StarBand Communications – to distribute high-speed service to subscribers in rural America. Beginning this summer, some of our members have begun offering the Hughes DIRECWAY and StarBand services through NRTC's "TrueBand High-Speed Internet" ("HSI") program.

II. The FCC Should Encourage the Deployment of Packet-Switched, "High-Speed" Internet Access in Rural America.

3. The definitions of "advanced telecommunications capability" and "advanced service," which the FCC established in earlier Section 706 reports to Congress,[2] are important benchmarks that Congress and federal agencies use to define "broadband." The current generation of Ku-band Internet technologies meet the definition of "advanced service" (defined as "those services capable of delivering transmission speeds in excess of 200 kbps in at least one direction") but not "advanced telecommunications capability" (defined as "infrastructure capable of delivering a speed in excess of 200 kbps in each direction"). The current DIRECWAY and StarBand services in the Ku-band do not have the bandwidth to support upstream data rates faster than 200 kbps.

4. The FCC's definitions and Section 706 reports have had an effect on how other agencies develop policies to promote advanced services. For example, the Department of Agriculture's Rural Utilities Service ("RUS") is administrating a pilot guaranteed loan program for rural telecommunications companies deploying high-speed Internet. It uses the current FCC

[2] See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, (2000) (*Second Report*), paragraph 8.

advanced telecommunications capability definition to determine qualified broadband applicants.[3] Ku-band services are not eligible. This definition directly inhibits the growth of a vital industry that is working to provide high-speed services to rural America. Ku-band satellites services are the comprehensive solutions, without which rural America will be left on the sidelines.

5. Ku-band carriers are not the only ones offering packet-switched services operating with less than 200 kbps upstream. Many digital subscriber line ("DSL") services also would not qualify for RUS support under the current eligibility requirements. For example, Verizon's "advanced" DSL package offers 128 kbps upstream.[4] Many other large carriers offer similar upstream packages for residential Internet services.

6. When the National Telephone Cooperative Association surveyed its members to measure broadband rollout in rural areas, it found a majority of its members had launched DSL or were planning to by the end of 2001. However, its study began with a definition of broadband assuming 200 kbps in one direction, reflecting the most common scenario for rural broadband services.[5]

7. There are several bills pending before Congress that propose various actions to jumpstart the delivery of broadband services in rural areas. Some would expand the RUS loan program. Others would create tax credits to encourage rural telecommunications providers to invest in broadband technologies and to hire workers to build and maintain broadband networks. Some in Congress favor using the federal universal service program to promote the spread of

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[3] See *Construction and Installation of Broadband Telecommunications Services in Rural America; Availability of Loan Funds*, ("Notice"), 65 Fed. Reg. 75,920 (Released December 5, 2000).

[4] See Verizon Web site (visited 9/17/2001) < http://www.bell-atl.com/infospeed/more_info/pricing.html>.

broadband services in rural areas. The FCC and the Federal-State Joint Board on Universal Service are considering a similar issue – whether advanced services should be among the "core" services offered by all telcos receiving universal service support.[6]

8. If most of these bills were passed into law as they now are written, they would do nothing to assist packet-switched service providers that do not have upstream data rates exceeding 200 kbps. On the other end of the spectrum, some bills define broadband without setting specific data rates or without specifying an upstream minimum.

9. The next Section 706 report to Congress offers the FCC the opportunity to review the types of services available in rural America today and clarify why they deserve support, even if their upstream data rates do not exceed 200 kbps. The most valuable statement the FCC could provide rural broadband providers in the report would be to acknowledge the value of Ku-band Internet and similar packet-switched technologies, explaining why they are an important first step toward higher-speed services and should be eligible for any federal assistance programs.

10. Rural America needs an orderly transition from the current analog and circuit-switched telecommunications technologies to always-on, packet-switched systems. Rural Internet providers are in the middle of that transition today. The need for speed is the second priority. Bandwidth determines speed. When packet-switched networks cover the United States, there will be ample opportunity to increase speed as needed and as bandwidth is available. Marketplace demand will determine how fast networks will operate.

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[5] National Telephone Cooperative Association, *NTCA Members Internet/Broadband Survey Report*, November 2000, page 9.

[6] See *Federal-State Joint Board on Universal Service Seeks Comment on Review of the Definition Of Universal Service,* Public Notice, CC Docket No. 96-45 (Released August 21, 2001).

11. The FCC is the expert agency with the influence to explain this concept in a convincing manner: speed is important, but not of paramount importance. In the coming years, we should expect Internet providers to offer data rates significantly faster than 200 kbps in both directions. But in the year 2002, rural America will be implementing packet-switched systems, such as Ku-band satellite Internet, that are on the growth path toward much higher-speed services.

III. Current Generation Technologies Offer the Smooth Transition to Packet Switching and an Opportunity to Gain Experience With Rural Broadband Businesses.

12. NRTC and its members, in their efforts to establish Ku-band satellite service, are gathering valuable experience and are finding innovative ways to improve the service. As of today, NRTC members in 26 states offer HSI. We are in the process of having more members in additional states offering this product.

13. Over the past six months, NRTC expended a great deal of effort to develop cost-effective ways to install satellite Internet dishes for rural households. We worked with DIRECWAY, StarBand, and our members, to develop marketing plans that will catch the attention of potential rural broadband users. Many aspects of the rural high-speed Internet business – service contracts, warranties, distribution agreements, and equipment delivery procedures – require new approaches as we ask rural America to explore this new service. In recent months, NRTC and its members have begun implementing these plans for the first time. We will assess and refine business procedures as we go forward. The experiences our members have gathered at this early stage already have been informative.

14. For example, service installation and authorization is proving to be one of the most complex aspects of the satellite Internet business. The installer must adjust the dish to an exact

position in order to receive data streams from the Ku-band satellites. The task, therefore, requires a professional installer. NRTC's HSI members must find ways to recruit and train installers quickly in order to serve consumers scattered over large geographic areas. An NRTC member, 3 Rivers Telecommunications ("3 Rivers") in Fairfield, Montana, found a way to build a force of 40 trained installers to travel throughout the state within a few weeks of launching its DIRECWAY business in August 2001.

15. Two employees of 3 Rivers attended NRTC's three-day HSI training in Herndon, Virginia. The training covered installation, marketing, customer service, troubleshooting, and general business operations. Upon returning to Montana, 3 Rivers was able to condense NRTC's training into a six-hour session focusing on installation issues. Next, 3 Rivers began combing Montana for people willing to be DIRECWAY installers, building on existing relationships with consumer electronics stores and placing want ads in newspapers throughout the state. 3 Rivers' rapid action could become a model for other rural satellite Internet providers as they roll out their services.

16. The West Florida Electric Cooperative ("West Florida"), located on Florida's Panhandle, also began distributing DIRECWAY in August 2001. It has managed to deploy satellite Internet over an even greater area than 3 Rivers. Upon finishing NRTC's HSI training, West Florida's manager of Internet services met with an independent contractor that needed an immediate distance learning solution. A religious organization with private schools located in small towns throughout the United States was seeking a high-speed Internet service that could reach all of its schools and consolidate the charges for each school on one bill. West Florida had everything the contractor needed to complete the job – available satellite Internet equipment, the ability to consolidate the bill, and the ability to train DIRECWAY installers quickly. Today,

West Florida has 20 satellite Internet sites installed, and about half of them are in small town schools at sites, not just in Florida, but throughout the nation. West Florida hopes to form similar nationwide satellite Internet installation agreements in the future.

17. Rural providers offering Ku-band satellite Internet are pioneering the business. They are establishing business models that will be field-tested and ready for later Ka-band carriers. In the meantime, they are delivering distance learning and other high-speed services where the demand exists today. We hope the FCC will describe their accomplishments to Congress and explain why their work deserves support.

IV. Speed Will Come as Bandwidth Becomes Available. Satellite Services Will Be Vital to Providing Broadband to Rural America.

18. It is easy to foresee current high-speed Internet providers developing much faster services, once bandwidth is available. DSL and cable modem services will integrate more fiber optics into their networks. Fixed wireless networks operating in the Local Multipoint Distribution Service ("LMDS"), 24 GHz, and 39 GHz bands will offer a great deal of bandwidth for broadband services once cost-effective equipment and demand develop. The FCC currently is engaged in a considerable effort to identify spectrum for mobile high-speed Internet services based on third-generation digital cellular technologies.

19. Satellite Internet carriers also approach the day when they will be able to operate with greater bandwidths with Ka-band satellites. In fact, if current business and technology trends continue, Ka-band services could reach rural homes before most urban areas have access to extensive fiber networks, fixed wireless, or 3G mobile networks.

20. As early as 2002, the first Ka-band satellite Internet service could be available to rural consumers.[7] Many other Ka-band carriers could begin operating soon afterward. Each of the Ka-band services is expected to perform well in excess of the FCC's "advanced telecommunications capability" definition and most of the broadband definitions written into the many proposed broadband bills.

21. In addition, the ubiquity of satellite services makes them vital to the overall strategy of providing broadband to rural areas. Ku-band services now offer the potential of improved distance learning, telemedicine, and e-commerce to all points in the continental United States. StarBand has begun providing service to some of the most remote regions of Alaska.[8] It is reasonable to expect that Ka-band carriers will have similar reach.

22. NRTC intends to do all that it can to promote Ka-band service in rural America. We regard our current involvement in Ku-band as a vital step toward that goal.

IV. Conclusion.

23. Market and technology trends suggest that one day all Americans will have access to broadband service in a reasonable and timely fashion. But if the federal government makes the wrong decisions today, progress toward providing broadband services to rural American could stall. We hope the Commission will send this message to Congress and federal policy makers: the spread of packet-switched technologies capable of improving to meet future high-speed needs are the most important priority today. Bandwidth will become available, and with

[7] See, WildBlue Web site (visited 9/19/2001) <http://www.wildblue.com/qa/index.htm>.

[8] See, Nancy Pounds, "Satellite Service Brings High-Speed Internet to Remote Denali Park," on Alaska Journal of Commerce Web site (visited 9/21/2001) <http://www.alaskajournal.com/stories/082001/loc_isp_denali_park.shtml>.

bandwidth comes speed. We believe satellite Internet services soon will follow this development path, with the federal government's patient assistance.

Respectfully Submitted,

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September 24, 2001